

## Surface Mining Reclamation and Enforcement, Interior

## § 816.22

(3) Signs shall be retained and maintained until after the release of all bonds for the permit area.

(d) *Perimeter markers.* The perimeter of a permit area shall be clearly marked before the beginning of surface mining activities.

(e) *Buffer zone markers.* Buffer zones shall be marked along their boundaries as required under § 816.57.

(f) *Topsoil markers.* Where topsoil or other vegetation-supporting material is segregated and stockpiled as required under § 816.22, the stockpiled material shall be clearly marked.

[44 FR 15395, Mar. 13, 1979, as amended at 48 FR 9806, Mar. 8, 1983; 48 FR 44780, Sept. 30, 1983; 73 FR 75882, Dec. 12, 2008; 79 FR 76231, Dec. 22, 2014; 81 FR 93392, Dec. 20, 2016; 82 FR 54979, Nov. 17, 2017]

### § 816.13 Casing and sealing of drilled holes: General requirements.

Each exploration hole, other drill or borehole, well, or other exposed underground opening shall be cased, sealed, or otherwise managed, as approved by the regulatory authority, to prevent acid or other toxic drainage from entering ground or surface waters, to minimize disturbance to the prevailing hydrologic balance, and to ensure the safety of people, livestock, fish and wildlife, and machinery in the permit area and adjacent area. If these openings are uncovered or exposed by surface mining activities within the permit area they shall be permanently closed, unless approved for water monitoring, or otherwise managed in a manner approved by the regulatory authority. Use of a drilled hole or borehole or monitoring well as a water well must meet the provisions of § 816.41 of this part. This section does not apply to holes solely drilled and used for blasting.

[44 FR 15395, Mar. 13, 1979, as amended at 48 FR 14822, Apr. 5, 1983; 48 FR 43990, Sept. 26, 1983; 81 FR 93392, Dec. 20, 2016; 82 FR 54979, Nov. 17, 2017]

### § 816.14 Casing and sealing of drilled holes: Temporary.

Each exploration hole, other drill or boreholes, wells and other exposed underground openings which have been identified in the approved permit application for use to return coal processing

waste or water to underground workings, or to be used to monitor ground water conditions, shall be temporarily sealed before use and protected during use by barricades, or fences, or other protective devices approved by the regulatory authority. These devices shall be periodically inspected and maintained in good operating condition by the person who conducts the surface mining activities.

[44 FR 15395, Mar. 13, 1979; 44 FR 49686, Aug. 24, 1979; 81 FR 93392, Dec. 20, 2016; 82 FR 54979, Nov. 17, 2017]

### § 816.15 Casing and sealing of drilled holes: Permanent.

When no longer needed for monitoring or other use approved by the regulatory authority upon a finding of no adverse environmental or health and safety effect, or unless approved for transfer as a water well under § 816.41, each exploration hole, other drilled hole or borehole, well, and other exposed underground opening shall be capped, sealed, backfilled, or otherwise properly managed, as required by the regulatory authority, under § 816.13 and consistent with 30 CFR 75.1711. Permanent closure measures shall be designed to prevent access to the mine workings by people, livestock, fish and wildlife, and machinery, and to keep acid or other toxic drainage from entering ground or surface waters.

[44 FR 15395, Mar. 13, 1979, as amended at 48 FR 43990, Sept. 26, 1983; 81 FR 93392, Dec. 20, 2016; 82 FR 54979, Nov. 17, 2017]

### § 816.22 Topsoil and subsoil.

(a) *Removal.* (1)(i) All topsoil shall be removed as a separate layer from the area to be disturbed, and segregated.

(ii) Where the topsoil is of insufficient quantity or poor quality for sustaining vegetation, the materials approved by the regulatory authority in accordance with paragraph (b) of this section shall be removed as a separate layer from the area to be disturbed, and segregated.

(2) If topsoil is less than 6 inches thick, the operator may remove the topsoil and the unconsolidated materials immediately below the topsoil and treat the mixture as topsoil.

(3) The regulatory authority may choose not to require the removal of topsoil for minor disturbances which—

(i) Occur at the site of small structures, such as power poles, signs, or fence lines; or

(ii) Will not destroy the existing vegetation and will not cause erosion.

(4) *Timing.* All material to be removed under this section shall be removed after the vegetative cover that would interfere with its salvage is cleared from the area to be disturbed, but before any drilling, blasting, mining, or other surface disturbance takes place.

(b) *Substitutes and supplements.* Selected overburden materials may be substituted for, or used as a supplement to topsoil if the operator demonstrates to the regulatory authority that the resulting soil medium is equal to, or more suitable for sustaining vegetation than, the existing topsoil, and the resulting soil medium is the best available in the permit area to support revegetation.

(c) *Storage.* (1) Materials removed under paragraph (a) of this section shall be segregated and stockpiled when it is impractical to redistribute such materials promptly on regraded areas.

(2) Stockpiled materials shall—

(i) Be selectively placed on a stable site within the permit area;

(ii) Be protected from contaminants and unnecessary compaction that would interfere with revegetation;

(iii) Be protected from wind and water erosion through prompt establishment and maintenance of an effective, quick growing vegetative cover or through other measures approved by the regulatory authority; and

(iv) Not be moved until required for redistribution unless approved by the regulatory authority.

(3) Where long-term surface disturbances will result from facilities such as support facilities and preparation plants and where stockpiling of materials removed under paragraph (a)(1) of this section would be detrimental to the quality or quantity of those materials, the regulatory authority may approve the temporary distribution of the soil materials so removed to an approved site within the permit area to

enhance the current use of that site until needed for later reclamation, provided that—

(i) Such action will not permanently diminish the capability of the topsoil of the host site; and

(ii) The material will be retained in a condition more suitable for redistribution than if stockpiled.

(d) *Redistribution.* (1) Topsoil materials and topsoil substitutes and supplements removed under paragraphs (a) and (b) of this section shall be redistributed in a manner that—

(i) Achieves an approximately uniform, stable thickness when consistent with the approved postmining land use, contours, and surface-water drainage systems. Soil thickness may also be varied to the extent such variations help meet the specific revegetation goals identified in the permit;

(ii) Prevents excess compaction of the materials; and

(iii) Protects the materials from wind and water erosion before and after seeding and planting.

(2) Before redistribution of the material removed under paragraph (a) of this section the regraded land shall be treated if necessary to reduce potential slippage of the redistributed material and to promote root penetration. If no harm will be caused to the redistributed material and reestablished vegetation, such treatment may be conducted after such material is replaced.

(3) The regulatory authority may choose not to require the redistribution of topsoil or topsoil substitutes on the approved postmining embankments of permanent impoundments or of roads if it determines that—

(i) Placement of topsoil or topsoil substitutes on such embankments is inconsistent with the requirement to use the best technology currently available to prevent sedimentation, and

(ii) Such embankments will be otherwise stabilized.

(4) *Nutrients and soil amendments.* Nutrients and soil amendments shall be applied to the initially redistributed material when necessary to establish the vegetative cover.

(e) *Subsoil segregation.* The regulatory authority may require that the B horizon, C horizon, or other underlying

strata, or portions thereof, be removed and segregated, stockpiled, and redistributed as subsoil in accordance with the requirements of paragraphs (c) and (d) of this section if it finds that such subsoil layers are necessary to comply with the revegetation requirements of §§ 816.111, 816.113, 816.114, and 816.116 of this chapter.

[48 FR 22100, May 16, 1983, as amended at 71 FR 51705, Aug. 30, 2006; 81 FR 93392, Dec. 20, 2016; 82 FR 54979, Nov. 17, 2017]

#### § 816.41 Hydrologic-balance protection.

(a) *General.* All surface mining and reclamation activities shall be conducted to minimize disturbance of the hydrologic balance within the permit and adjacent areas, to prevent material damage to the hydrologic balance outside the permit area, to assure the protection or replacement of water rights, and to support approved postmining land uses in accordance with the terms and conditions of the approved permit and the performance standards of this part. The regulatory authority may require additional preventative, remedial, or monitoring measures to assure that material damage to the hydrologic balance outside the permit area is prevented. Mining and reclamation practices that minimize water pollution and changes in flow shall be used in preference to water treatment.

(b) *Ground-water protection.* In order to protect the hydrologic balance, surface mining activities shall be conducted according to the plan approved under § 780.21(h) of this chapter and the following:

(1) Ground-water quality shall be protected by handling earth materials and runoff in a manner that minimizes acidic, toxic, or other harmful infiltration to ground-water systems and by managing excavations and other disturbances to prevent or control the discharge of pollutants into the ground water.

(2) Ground-water quantity shall be protected by handling earth materials and runoff in a manner that will restore the approximate premining recharge capacity of the reclaimed area as a whole, excluding coal mine waste disposal areas and fills, so as to allow

the movement of water to the ground-water system.

(c) *Ground-water monitoring.* (1) Ground-water monitoring shall be conducted according to the ground-water monitoring plan approved under § 780.21(i) of this chapter. The regulatory authority may require additional monitoring when necessary.

(2) Ground-water monitoring data shall be submitted every 3 months to the regulatory authority or more frequently as prescribed by the regulatory authority. Monitoring reports shall include analytical results from each sample taken during the reporting period. When the analysis of any ground-water sample indicates noncompliance with the permit conditions, then the operator shall promptly notify the regulatory authority and immediately take the actions provided for in §§ 773.17(e) and 780.21(h) of this chapter.

(3) Ground-water monitoring shall proceed through mining and continue during reclamation until bond release. Consistent with the procedures of § 774.13 of this chapter, the regulatory authority may modify the monitoring requirements, including the parameters covered and the sampling frequency, if the operator demonstrates, using the monitoring data obtained under this paragraph, that—

(i) The operation has minimized disturbance to the hydrologic balance in the permit and adjacent areas and prevented material damage to the hydrologic balance outside the permit area; water quantity and quality are suitable to support approved postmining land uses; and the water rights of other users have been protected or replaced; or

(ii) Monitoring is no longer necessary to achieve the purposes set forth in the monitoring plan approved under § 780.21(i) of this chapter.

(4) Equipment, structures, and other devices used in conjunction with monitoring the quality and quantity of ground water onsite and offsite shall be properly installed, maintained, and operated and shall be removed by the operator when no longer needed.

(d) *Surface-water protection.* In order to protect the hydrologic balance, surface mining activities shall be conducted according to the plan approved